

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method for detecting identification media (~~IM~~) within the communication range (~~K-B~~) of an antenna (~~At~~) for transmitting and receiving RF signals of a read/write unit (~~WR~~) which operates in accordance with the principle of inductive coupling of an RF field in the MHz frequency band and which has a transmitting path (~~HFo~~) connected directly to the antenna,

a receiving path (~~Dem~~) connected directly to the antenna,

a circuit (~~S(HF)~~) for RF communication with a standard transmitting power (~~P-HF~~) or less, and a logical circuit (~~Pr~~) for evaluating a communication between the read/write unit (~~WR~~) and an identification medium (~~IM~~), characterized in that

a short polling signal (~~ASo~~), which contains a number of fundamental oscillations of the RF field, is periodically emitted with the standard transmitting power (~~P-HF~~) via the transmitting path (~~HFo~~) and the antenna (~~At~~) (1),

that during the emission of the polling signal (~~ASo~~), a return signal (~~ASi~~) with a number of fundamental oscillations of the RF field is detected at the antenna (~~At~~) (2),

then the return signal (~~ASi~~) is compared with a reference signal (~~RS~~) (3),

and then a communication signal (~~KS~~) is emitted for detecting an identification medium (~~IM~~) (4) if the return signal (~~ASi~~) differs from the reference signal (~~RS~~) (3=2).

2. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the polling signal (~~ASo~~) is shorter by at least two orders of magnitude than the communication signal (~~KS~~).

3. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the detection (2) of the return signal (~~ASi~~) is effected via the receiving path (~~Dem~~).

4. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the detection ~~(2)~~ of the return signal (AS_i) is effected via a separate detection path ~~(Det)~~.

5. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the comparison ~~(3)~~ of return signal (AS_i) and reference signal (RS) is effected by the logical circuit ~~(Pr)~~.

6. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the comparison ~~(3)~~ of return signal (AS_i) and reference signal (RS) is effected in a separate logical circuit ~~(Pr(AS))~~.

7. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the comparison ~~(3)~~ of return signal (AS_i) and reference signal (RS) is effected by means of a separate discrete circuit ~~(dS(AS))~~.

8. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the return signal ($AS_i(p)$) of the current measuring period (p) is used as reference signal ~~(RS(p+1))~~ for the next measuring period ~~(p+1)~~ ~~(6)~~.

9. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the reference signal (RS) is changed over time in accordance with a stored reference signal profile ~~(RSP(t))~~ ~~(6)~~.

10. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the reference signal ($RS(t)$) is self-adapting over time ~~(6)~~.

11. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the amplitudes (A) of return signal (AS_i) and reference signal (RS) are compared ~~(3)~~.

12. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the pulse widths (~~L~~) of return signal (~~ASi~~) and reference signal (~~RS~~) are compared (~~3~~).

13. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the emission (~~4~~) of a communication signal (~~KS~~) takes place if the return signal (~~ASi~~) is below the reference signal (~~RS~~) by a defined threshold value (~~X~~) (~~3-2~~): $ASi < RS - X$.

14. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the comparison (~~3~~) of return signal (~~ASi~~) and reference signal (~~RS~~) is effected by analog means via a comparator (~~Co~~) of a discrete circuit (~~dS(AS)~~).

15. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the comparison (~~3~~) of return signal (~~ASi~~) and reference signal (~~RS~~), after an A/D conversion, is effected by digital means by the logical circuit (~~Pr~~) or by a separate logical circuit (~~Pr(AS)~~).

16. (currently amended) A method according to claim 13, ~~characterized in that~~ wherein the threshold value (~~X~~) is defined by a comparator (~~Co~~) or its drive system.

17. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein there is a defined time delay (~~dt~~) between the beginning of the emission (~~t~~) of a polling signal (~~ASo~~) and the detection (~~2~~) of the return signal (~~ASi~~).

18. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the return signal (~~ASi~~) contains at least 10 fundamental oscillations of the RF field.

19. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the logical circuit (~~Pr~~) is set from an idle mode (~~Is~~) into an operating mode (~~Ib~~) before transmitting the polling signal (~~ASo~~).

20. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the communication signal (~~KS~~) is emitted with a transmitting power (~~P-HF_r~~) reduced by at least a factor of 2.

21. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the read/write unit (~~WR~~) adaptively determines in a self-learning manner whether the communication signal (~~KS~~) is emitted with standard transmitting power (~~P-HF~~) or with reduced transmitting power (~~P-HF_r~~).

22. (currently amended) A read/write unit for detecting identification media (~~IM~~) within the communication range (~~K-B~~) of an antenna (~~At~~) for transmitting and receiving RF signals of the read/write unit (~~WR~~) which operates in accordance with the principle of inductive coupling of an RF field in the MHz frequency band and which has a transmitting path (~~HF_o~~) connected directly to the antenna,

a receiving path (~~Dem~~) connected directly to the antenna,

a circuit (~~S(HF)~~) for RF communication with a standard transmitting power (~~P-HF~~) or less, and a logical circuit (~~Pr~~) for evaluating a communication between the read/write unit (~~WR~~) and an identification medium (~~IM~~), characterized in that

a short polling signal (~~ASo~~), which contains a number of fundamental oscillations of the RF field, can be periodically emitted with the standard transmitting power (~~P-HF~~) via the transmitting path (~~HF_o~~) and the antenna (~~At~~) (1),

and during the emission of the polling signal (~~ASo~~), a return signal (~~ASi~~) with a number of fundamental oscillations of the RF field can be detected at the antenna (~~At~~) (2),

then the return signal (~~ASi~~) can be compared with a reference signal (~~RS~~) (3),

and then a communication signal (~~KS~~) can be emitted for detecting an identification medium (~~IM~~) (4) if the return signal (~~ASi~~) differs from the reference signal (~~RS~~) (3-2).